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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-----------------------|---------------------|------------------|
| 09/870,944      | 06/01/2001  | Michael I. Catherwood | 18153.0040          | 8704             |

23517 7590 04/30/2004

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EXAMINER

DO, CHAT C

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2124

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                        |  |
|------------------------------|-----------------|------------------------|--|
| <b>Office Action Summary</b> | Application No. | Applicant(s)           |  |
|                              | 09/870,944      | CATHERWOOD, MICHAEL I. |  |
|                              | Examiner        | Art Unit               |  |
|                              | Chat C. Do      | 2124                   |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06/01/01;07/30/01;09/24/01;11/16/01.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 1, the limitation "the added operands" in lines 4 and 6 is unclear whether the added operands means a result of added operands or the first and second operands. For examination purposes, the examiner considers the limitation "the added operands" as a result of added operands.

Re claim 6, the limitation "the result of the comparison" in line 8 lacks an antecedence basis. For examination purposes, the examiner considers the limitation as "a result of the comparison".

Thus, claims 2-5 and 7 are also rejected for being dependent on the rejected base claims 1 and 6 respectively.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2124

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipate by Bartkowiak et al. (U.S. 5,282,153).

Re claim 1, Bartkowiak et al. disclose in Figure 1 a system for overflow and saturation (abstract) processing comprising: an adder (44), operatively connected to receive first and second operands (A as 80 and B as 78), and connected to, add the operands (output of 44); an accumulator (50), operatively connected to store at least a portion of the added operands (100) or at least a portion of a selected one of predetermined constants based on control signals; guard bits (MSB of 50) operatively connected to store the remaining portion of the added operands or the remaining portion of the selected one of predetermined constants based on the control signals; overflow logic (46) operatively connected to the accumulator and to the guard bits so as to indicate overflow of the accumulator; and saturation logic (48) operatively connected to the adder (44), to the guard bits, and connected to provide the control signals based on at least a portion of the added operands at least a portion of the guard bits.

Re claim 6, Bartkowiak et al. disclose in Figure 1 a method for overflow and saturation processing in a processor (abstract) including guard bits and an accumulator (50) comprising: adding operands (A as 80 and B as 78) to form a result (84); comparing a portion of the result with a portion of the guard bits (46); storing either a portion of the result in the accumulator and the remaining portion of the result in the guard bits, or a portion of a selected predetermined constant in the accumulator and the remaining

Art Unit: 2124

portion of the predetermined constant in the guard bits in accordance with an enable signal and the result of the comparison (48 and 50).

Re claim 7, Bartkowiak et al. further disclose in Figure 1 the comparing a portion of the result with portion of the guard bits includes comparing most significant bits of the guard bits and most significant bits of the result (46).

#### ***Allowable Subject Matter***

5. Claims 2-5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 6,564,238 to Kim et al. disclose a data processing apparatus and method for performing different word-length arithmetic operations.
- b. U.S. Patent No. 5,936,870 to Im discloses an arithmetic operating device for digital signal processing and method therefor.
- c. U.S. Patent No. 4,379,338 to Nishitani et al. disclose an arithmetic circuit with overflow detection capability.

Art Unit: 2124

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do  
Examiner  
Art Unit 2124

April 26, 2004

*Kakali Chaki*  
**KAKALI CHAKI**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**